

IN THE CLAIMS:

1-7. (cancelled):

8.(currently amended): A catalyst system comprising the support of claim 7 a polymeric support having a particle size 1 to 300 microns, a surface area from 100 to 1,500 m²/g and a pore volume of at least 0.1 cm³/g, a co-catalyst in an amount from 0.01 to 0.8 g per g of support, said co-catalyst having the formula R¹₂AlO(R¹AlO)_mAlR¹₂ wherein each R¹ is independently selected from C₁₋₂₀ hydrocarbonyl radicals and m is from 3 to 50, said support comprising the suspension or emulsion polymerization product of a feedstock comprising:

- (i) from 60 to 99 weight % of one or more C₄₋₁₂ vinyl monomers selected from the group consisting of styrene, alpha-methyl styrene, para-methyl styrene and C₁₋₄ alkyl esters of C₃₋₆ unsaturated carboxylic acids; and
- (ii) from 40 to 1 weight % of a crosslinking agent selected from the group consisting of divinyl benzene, divinyl toluene, pentaerythritol di- and tri-acrylates and pentaerythritol di- and tri-methacrylates;

and said support being treated with,

- (iii) from 0.01 to 5 mmol per gram of support of a halosulfonic acid;
- (iv) from 0 to 10 mmol per gram of support of a compound of the formula M (R²)_a(OR²)_b(X)_c wherein M is a metal atom selected from the group

consisting of Mg, Al and Zn, R² is a C₁₋₁₀ alkyl radical and a, b, and c are integers from 0 to 3 provided the sum of a+b+c = the valence of M; and (v) from 0 to 5 mmol per gram of support of a bulky amine;
 together with and a catalyst of the formula:



wherein M is a transition metal; L is a monoanionic ligand independently selected from the group consisting of a cyclopentadienyl-type ligand, a bulky heteroatom ligand and a phosphinimine ligand; X is an activatable ligand; n ~~may be~~ is from 1 to 3; and p ~~may be~~ is from 1 to 3, provided that the sum of n+p equals the valence state of M, and further provided that two L ligands may be bridged by a silyl radical or a C₁₋₄ alkyl radical, ~~to provide wherein~~ a molar ratio of aluminum from the co-catalyst to transition metal is from 20:1 to 300:1.

9.(original): The catalyst system according to claim 8, wherein M is selected from the group consisting of Ti, Zr and Hf.

10.(currently amended): The catalyst system according to claim 9, wherein the cyclopentadienyl-type ligand is a C₅₋₁₃ ligand containing a 5-membered carbon ring having delocalized bonding within the ring and bound to the metal atom through covalent η^5 bonds, ~~and said ligand being unsubstituted or up to fully substituted with one or more substituents selected from the group consisting of C₁₋₁₀ hydrocarbyl~~

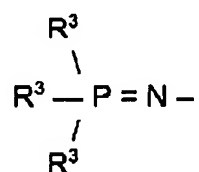
radicals in which hydrocarbyl substituents are unsubstituted or further substituted by one or more substituents selected from the group consisting of a halogen atom and a C₁₋₄ alkyl radical; a halogen atom; a C₁₋₈ alkoxy radical; a C₆₋₁₀ aryl or aryloxy radical; an amido radical which is unsubstituted or substituted by up to two C₁₋₈ alkyl radicals; a phosphido radical which is unsubstituted or substituted by up to two C₁₋₈ alkyl radicals; silyl radicals of the formula —Si—(R⁵)₃ wherein each R is independently selected from the group consisting of hydrogen, a C₁₋₈ alkyl or alkoxy radical, and C₆₋₁₀ aryl or aryloxy radicals; and germanyl radicals of the formula Ge—(R⁵)₃ wherein R⁵ is as defined above.

11.(currently amended): The catalyst system according to claim 10, wherein X is selected from the group consisting of a hydrogen atom; a halogen atom, ~~preferably a chlorine or fluorine atom~~; a C₁₋₁₀ hydrocarbyl radical; a C₁₋₁₀ alkoxy radical; and a C₆₋₁₀ aryl oxide radical; each of which said hydrocarbyl, alkoxy, and aryl oxide radicals may be unsubstituted by or further substituted by one or more substituents selected from the group consisting of a halogen atom; a C₁₋₈ alkyl radical; a C₁₋₈ alkoxy radical; a C₆₋₁₀ aryl or aryloxy radical; an amido radical which is unsubstituted or substituted by up to two C₁₋₈ alkyl radicals; and a phosphido radical which is unsubstituted or substituted by up to two C₁₋₈ alkyl radicals.

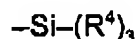
12. (original): The catalyst system according to claim 11, wherein the bulky

heteroatom ligand is selected from the group consisting of ketimide ligands, silicon-containing heteroligands, amido ligands, alkoxy ligands, boron heterocyclic ligands and phosphole ligands.

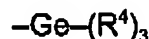
13.(original): The catalyst system according to claim 11, wherein the bulky heteroatom ligand is a phosphinimine ligand of the formula:



wherein each R^3 is independently selected from the group consisting of a hydrogen atom; a halogen atom; C_{1-10} hydrocarbyl radicals which are unsubstituted by or further substituted by a halogen atom; C_{1-8} alkoxy radicals; C_{6-10} aryl or aryloxy radicals; an amido radical; a silyl radical of the formula:



wherein each R^4 is independently selected from the group consisting of hydrogen, C_{1-8} alkyl or alkoxy radicals, and C_{6-10} aryl or aryloxy radicals; and a germanyl radical of the formula:



wherein R^4 is as defined above.

14.(currently amended): The catalyst system according to claim 13, wherein in the

phosphinimine ligand each R^3 is independently selected from ~~the group consisting of~~ C_{3-8} alkyl radicals.

15-17.(cancelled):

18.(new): The catalyst system according to claim 8, wherein in the support preparation the vinyl monomer is styrene and is present in an amount from 90 to 98 weight %.

19.(new): The catalyst system according to claim 18, wherein in the support preparation the crosslinking agent is divinyl benzene.

20.(new): The catalyst system according to claim 19, wherein in the support preparation component (iii) is fluorosulfonic acid and is present in an amount from 0.1 to 3 mmol per gram of support.

21.(new): The catalyst system according to claim 20, wherein in the support preparation component (iv) is tri-isobutyl aluminum and is present in an amount from 1 to 3 mmol per gram of support.

22.(new): The catalyst system according to claim 21, wherein in the support preparation component (v) is phenyl dimethyl amine and is present in an amount from

0.1 to 2 mmol per gram of support.

23. (new): The catalyst system according to claim 22, wherein in the support preparation in the co-catalyst R¹ is predominantly a C₁₋₄ alkyl radical and m is from 3 to 30.